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Abstract (poster session)
Risk factors of fluoroquinolone resistance in community-acquired acute pyelonephritis caused by Escherichia coli

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Objectives: Escherichia coli is the most common pathogen in community-acquired acute pyelonephritis (CA-AP) and practice guidelines recommend oral fluoroquinolones (FQ) as initial therapy. The emergence of E. coli resistance to FQ increased in recent years and spread gradually worldwide leading to treatment failure. The goals of this study were to identify risk factors for acquiring FQ resistance in E. coli isolated from CA-AP. Methods: Retrospective analytic study included all E. coli isolated from urine samples of patients admitted for CA-AP at infectious diseases department in the university hospital of Monastir between 1999 and 2009. Clinical and epidemiological features were collected. Patients aged > 14 years ho presented temperature >= 37,8°C, flank pain and/or costovertebral tenderness, urinary tract symptoms, leukocyte count > 10*4/ml and bacteriuria > 10*5/ml were enrolled. Identification of E. coli was performed by API20E. The study of antibiotic susceptibility was performed by agar diffusion according to CA-SFM. Univariate analyses were run to describe the distribution, central tendency and variability. Covariates found to be associated with FQ resistance on univariate analysis at a level of significance p < 0.2 were eligible for inclusion in a multivariate logistic regression model. SPSS version 17.0 was used for analysis. Results: A total of 433 cases of CA-AP were included. The mean age was 44.4 years (15 - 89) and 128 (29.6%) were male. Dominant comorbid conditions were diabetes (90, 20.8%) and urinary abnormalities (65, 15%) particularly urinary stone (35, 53.8%). Thirty one strains (7.1%) were resistant to FQ. Of them, 12 (38.7%) were extended-spectrum betalactamase-producing. In univariate analysis FQ resistance was correlated to urinary catheterization (p = 0.002), antibiotic use in the previous 12 months (p = 0.038) and hospitalization in the previous 12 months (p = 0.024). The independent predictor of FQ resistance in E. coli CA-AP was male sex (OR 3.5, p = 0.023, 95% CI 1.19-10.35). If we analyze only women, menopause was only significant risk factor for FQ resistance (OR 2.8, p = 0.01, 95% CI 1.23-6.53). Conclusion: CA-AP due to FQ resistant E. coli strains are increasing in Tunisia. Efforts are needed to curtail the increase of resistance and empiric antimicrobial regimens should be evaluated.